

## ABSTRACT OF THE DISCLOSURE

A distillation unit (10) employs a rotary heat exchanger (32) forming a multiplicity of evaporation chambers (56) into which a liquid to be purified is sprayed for evaporation. Spray arms (58) spray at a steady rate into all of the evaporation chambers (56) simultaneously but not at a rate that is adequate to maintain the wetting required for efficient transfer of heat to the liquid. A scanning sprayer (140) supplements this steady spray with spray from nozzles (142 and 144) into only a few of the evaporation chambers at a time, visiting all of them cyclically. The overall rate of spray from the two sources thus combined to spray the chamber cyclically maintains proper wetting even though on average it is lower than the rate that would be required of a constant-rate spray into all of the evaporation chambers.